generating a second signal by directing a second light beam having a second effective wavelength onto the substrate and measuring light from the second light beam reflected from the substrate, wherein the first effective wavelength differs from the second effective wavelength; and

combining the first and second signals to determine a polishing endpoint.

REMARKS

Attached is a marked-up version of the changes being made by the current amendment.

Applicant asks that all claims be examined.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 5/8/01

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Version with markings to show changes made

In the specification:

At page 1, line 6, the following paragraph has been inserted:

--The present application is a continuation of U.S. Patent Application Serial No. 09/237,472, filed January 25, 1999.

In the claims:

Claim 1-33, 35 and 43-58 have been cancelled.

Claims 1, 36, 43, 45 and 58 have been amended as follows:

1. (Amended) An apparatus for use in chemical mechanical polishing a substrate, [having a first surface and a second surface underlying the first surface,] comprising:

a first optical system including a first light source to generate a first light beam to impinge on the substrate, the first light beam having a first effective wavelength, and a first sensor to measure light from the first light beam that is reflected from the [first and second surfaces] substrate to generate a first [interference] signal;

a second optical system including a second light source to generate a second light beam that impinges the substrate, the second light beam having a second effective wavelength which differs from the first effective wavelength, and a second sensor to measure light from the second light beam that is reflected from the [first and second surfaces] substrate to generate a second [interference] signal; and

a processor configured to determine a [thickness] polishing endpoint from the first and second [interference] signals.

36. (Amended) An apparatus for use in chemical mechanical polishing a substrate, [having a first surface and a second surface underlying the first surface,] comprising:

a first optical system including a first light emitting diode to generate a first light beam that impinges the substrate, the first light beam having a first effective wavelength, and a first

sensor to measure light from the first light beam that is reflected from the [first and second surfaces] substrate to generate a first [interference] signal; and

a second optical system including a second light emitting diode to generate a second light beam that impinges the substrate, the second light beam having a second effective wavelength that differs from the first effective wavelength, and a second sensor to measure light from the second light beam that is reflected from the [first and second surfaces] substrate to generate a second [interference] signal.

43. (Amended) An apparatus for detecting a polishing endpoint during chemical mechanical polishing of a substrate, [having a first surface and a second surface underlying the first surface,] comprising:

a first optical system including a first light source to generate a first light beam having a first effective wavelength that impinges the substrate, and a first sensor to measure light from the first light beam that is reflected from the [first and second surfaces] substrate to generate a first [interference] signal; and

a second optical system including a second light source to generate a second light beam that impinges the substrate, the second light beam having a second effective wavelength that differs from the first effective wavelength, and a second sensor to measure light from the second light beam that is reflected from the [first and second surfaces] substrate to generate a second [interference] signal; and

a processor configured to [compare] combine the first and second [interference] signals and detect the polishing endpoint.

45. (Amended) A method of determining a layer thickness for a substrate undergoing chemical mechanical polishing, comprising:

generating a first [interference] signal by directing a first light beam having a first effective wavelength onto the substrate and measuring light from the first light beam reflected from the substrate with a first detector;

generating a second [interference] signal by directing a second light beam having a second effective wavelength onto the substrate and measuring light from the second light beam

reflected from the substrate with a second detector, wherein the first effective wavelength differs from the second effective wavelength; and

determining the [thickness] polishing endpoint from the first and second interference signals.

58. (Amended) A method of detecting a polishing endpoint during polishing of a substrate, comprising:

generating a first [interference] signal by directing a first light beam having a first effective wavelength onto the substrate and measuring light from the first light beam reflected from the substrate;

generating a second [interference] signal by directing a second light beam having a second effective wavelength onto the substrate and measuring light from the second light beam reflected from the substrate, wherein the first effective wavelength differs from the second effective wavelength; and

[comparing] combining the first and second [interference] signals to determine a polishing endpoint.